## REMARKS

The Applicant has filed the present Response in reply to the outstanding Final Official Action of November 15, 2005, and the Applicant respectfully submits that the Response is fully responsive to the Final Official Action for the reasons set forth below in detail.

At the onset, Applicant would like to note that new Claims 9-16 have been submitted for examination. Independent Claim 9 recites similar subject matter to original Claims 1 and 6. Independent Claim 14 is the corresponding method claim. Claims 10-13 depend from Claim 9 and Claims 15 and 16 depend from Claim 14. Claim 15 recites similar subject matter to Claim 8, which is allowable. Entry of the new claims is respectfully requested.

Applicant submits that the added claims do not raise any new issues or new matter. Specifically, Applicants submit that the new claims do not require a new search. Since the new claims are directed to similar subject matter to the original claims, a new search is not needed. Additionally, the subject matter of the additional claims is not new matter. For example, support therefor can be found at pages 6-8. Applicant respectfully submits that all of the claims are in condition for allowance. None of the references of record in the instant application teach, suggest or render obvious each and every feature of the claims for the reasons set forth below.

Furthermore, Applicant submits that Fujioka fails to teach, suggest or render obvious each and every limitation of Claim 7. In the outstanding Final Official Action, Claim 7 stands rejected under 35 U.S.C. § 103(a) in view of Fujioka.

Applicant respectfully disagrees with the rejection and traverses with at least the following analysis.

Fujioka is non-analogous art; Fujioka does not teach an LCD panel, rather an EL display. An EL display is not an LCD panel. An EL display is a self-emissive type display that uses materials formed into thin films and that are **driven by electric current to generate light**. EL means emission obtained by applying an alternating electric field to phosphor in the dielectric substance. EL displays have the following characteristics: (1) self emissive and capable of achieving high contrast, (2) the display can be thin because **no backlight is required as used in LCDs,** (3) high response speed, a thousand times faster than that of LCDs (from 5 to 10 ms), and (4) wide viewing angle.

LCD displays are voltage-driven devices, while EL devices are current-driven devices, which need to use high-electron mobility TFTs (low temperature p-Si,CG-Si).

By contrast, LCDs require either an external light source (reflective type) or a fluorescent or LED backlight (transflective type). The LCD does not emit light by itself. There are two types of LCDs, normally black and normally white. A normally black is a twisted nematic LCD design where the backlight is blocked when pixels are in the unselected state. Therefore, when no voltage is applied, the screen is black. A normally white LCD is a twisted nematic LCD design where light is transmitted when pixels are in the unselected state. Therefore, when no voltage is applied, the screen is white.

Fujioka does not teach an LCD panel. One of ordinary skill in the art would not look to Fujioka for a teaching as to how to design a driver and controller for an LCD. Since, Fujioka does not teach an LCD panel, the reference cannot teach "a liquid crystal panel being either normally white or normally black".

Accordingly, Applicant submits that the reference fails to teach (i) a **liquid crystal panel being either normally white or normally black,** (ii) gradation power source supplying voltage

**depending on said liquid crystal panel**, and (iii) micro processor or a dual in-line package switch outputting a switching signal for inputting the switching signal to the selector **depending on the liquid crystal panel,** as specifically recited in Claim 7.

The reference teaches a thin film EL display panel. There is no mention of either normal black or normal white panels, no mention of twist nematic (TN) panels or transverse electric field liquid crystal panels.

Furthermore, the reference does not teach multiple display types **but rather multiple modes for the same display type**, as recited independent Claims 7, 9 and 14. Specifically, it is clear that Fujioka's other display modes" are modes for controlling the same single thin film EL panel. Fujioka states "[t]he invention has been described for full emitting display mode. In any other display modes, the N-ch drive and P-ch drive of the present invention are complimentary and can save power consumption for modulation by the same ratio as above." Col. 9:67-10:3. For example, another display mode can be a mode for emitting light from some part of a display, i.e., partial display mode.

In contrast, the claimed invention can drive multiple display types.

Furthermore, the reference fails to teach that the voltage supplied by the gradation power is dependent on the liquid crystal panel. Since only an EL panel is described, there is no teaching about different gradation powers for each panel type. Additionally, the Examiner identified the gradation power source as element 10 of Figure 1; however, the reference clearly states that element 10 is the thin film EL display panel with emitting threshold voltage. Applicant respectfully submits that the Examiner is erroneously identifying the gradation power source.

Applicant further submits that the reference does not teach inputting the switching signal to the selector **depending on the liquid crystal panel.**

While the reference teaches an inverter and selector for selecting either an H or L voltage value, the reference does not teach that the switching is performed based upon the panel type. In Fujioka the inversion is required to charge the luminance material and the selection is done by alternating electric field to phosphor in the dielectric substance to provide proper emission of light for a given panel.

In the claimed invention, the switching signal is dependent on either the type of the liquid crystal display or the mode of operation. In a disclosed embodiment of the invention, the specification describes four types of switching signals on page 7. The specification discloses two types of displays, i.e., a TN LCD and a transverse electric field LCD. The specification further discloses two types of modes of operation, a normally white mode and a normally black mode. The user can switch the screen between the normally white and normally black modes without dependence on the type of liquid crystal panel. The user can also switch the display to either a TN LCD or a transverse electric field LCD. There would be a liquid crystal panel identification terminal for identifying the type of panel.

This switching signal allows for the LCD controller to be able to be used for various panels without a dependence on the type of panel, and, therefore, mass production can be easily performed. Additionally, with only one controller controlling both normally black and normally white, the number of parts and cost decreases.

On the other hand, the reference teaches that a source potential selector circuit (300) is used for the scanning side P-ch high withstanding MOS IC's. Potential of 200 V or 30 V is selected by a switch (SW1) that is operated by a signal (PSC) and a source potential selector

circuit 400 is used for the scanning side N-ch high withstanding MOS IC's. Potential of either-160 or 30 V is selected by a switch (SW2) that is operated by a signal (NSC). In principle, the data side electrodes are driven by switching over the voltage applied to the data side electrode lines between VM (=60 V) and 0 V, at cycles of one horizontal period **according to the display data (H: luminous, L: non-luminous).** According to the present invention, write pulses of positive and negative polarities are applied to the selected electrode on the scanning side due to the N-ch and P-ch high withstanding MOS IC's on the scanning side, thus permitting a low withstanding driver IC to be used on the data side. The pulse voltage waveforms of positive and negative polarities applied to the picture elements of the EL display panel are perfectly symmetrical throughout the drive period including the modulation period, which helps eliminate the burning resulting from polarization and, therefore, enhances the long-term reliability of the display panel.

Clearly, the switching signal in Fujioka is not based upon the type of panel.

Moreover, the claimed invention does not invert the driving signal of a picture element itself. In contrast, the claimed invention drives an LCD panel by means of the liquid display panel controller after inverting an input signal.

Fujioka teaches that the data inversion is for the driving picture elements. Specifically, the reference states "[s]ince pulse voltage waveforms with positive and negative polarities applied to the picture elements are perfectly symmetrical all through the drive time include the modulation period ..." Col. 10:14-17.

Clearly, the data inversion is not the same.

Applicant further submits the Fujioka fails to teach a liquid crystal identification terminal for identify the type of multiple types of liquid crystal display panels, as recited Claim 11.

The reference only teaches one type of panel, i.e., EL display panel, and , therefore, there is no need for a liquid crystal identification terminal.

Lastly, Applicant submits that Fujioka also fails to illustrate how voltages according to various V-T characteristics are applied. Fujioka merely teaches one V-T characteristic. In contrast, the claimed invention inverts input signals for applying voltage according to various V-T characteristics.

Accordingly, the Applicant respectfully requests that the Examiner withdraw the rejection of claim 7 pursuant 35 U.S.C. § 103(a) of Claim 7. Additionally allowance of Claims 9-16 is respectfully requested.

In view of the foregoing, the Applicant believes that the above-identified application is in condition for allowance and henceforth respectfully solicits the allowance of the application. If the Examiner believes a telephone conference might expedite the allowance of this application, the Applicant respectfully requests that the Examiner call the undersigned, Applicant's attorney, at the following telephone number: (516) 742-4343.

Respectfully submitted,

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